

V. HOSPITAL RISK-ADJUSTED MORTALITY RATES, 2000-2002

The logistic regression model in Table 3 was used to develop risk-adjusted mortality rates for each of the 77 participating hospitals. Among hospitals participating in public reporting, 1,389 patients out of 53,190 died in-hospital reflecting an overall in-hospital death rate of 2.61%. This compares to an overall rate of 2.9% nationally for 2000-2002 as reported by the Society of Thoracic Surgeons for 30-day operative mortality (see www.sts.org). Because some deaths occur after discharge but within 30 days, 30-day operative mortality is slightly higher than in-hospital mortality.

Table 5 and Figure 2 present the risk-adjusted results for each of the hospital participants in 2000-2002. Table 5 displays the results alphabetically and includes the number of isolated CABGs reported to CCMRP, the number of deaths at discharge, the number of expected deaths predicted by the risk model, observed-to-expected death (O/E) ratios, the observed death rate, the expected death rate with 95% confidence interval (CI), and the overall performance rating. Figure 2 shows the results graphically, sorted alphabetically within geographic region. The overall performance rating is based on a comparison of the hospital's observed mortality rate and the 95% CI of that hospital's expected mortality rate predicted by the risk model. If the observed mortality is below the lower limit of the 95% CI of expected mortality, the overall performance rating will be "Better than Expected." If the observed mortality is beyond the upper limit of the 95% CI of expected mortality, the overall performance rating will be "Worse than Expected." For hospitals where the observed mortality is within the 95% CI of the expected mortality rate, the overall performance rating is "As Expected." The 2000-2002 analysis revealed that of the 77 participating hospitals, nine performed "worse than expected" (i.e., their actual death rate was higher than what was expected/predicted), eight performed "better than expected," and 60 performed "as expected."

Among the 77 participating hospitals, 67 hospitals provided more than one year of data (59 hospitals submitted three years of data and eight hospitals submitted two years of data). The overall performance ratings for those 67 hospitals were based on their multiple-year data. The performance ratings for the remaining 10 hospitals were based on one year of data and two of these hospitals had performance ratings based on less than 100 cases (see Appendix B). Rating small volume hospitals on a single year of data is not ideal because statistical methods may not detect quality differences and their results are more likely to vary by chance.

Table 5: Risk-Adjusted Results for CCMRP Hospitals, 2000-2002, Sorted Alphabetically

Hospital Name	CABG Cases Submitted	Number of Observed Deaths	Number of Expected Deaths	O/E Ratio	Observed Death Rate	Lower 95% CL for Expected Death %	Expected Death Rate	Upper 95% CL for Expected Death %	Overall Performance Rating (blank=As Expected)
Alta Bates Medical Center	213	10	5.6	1.8	4.7	0.7	2.6	4.5	Worse Than Expected
Alvarado Hospital Medical Center	228	14	4.1	3.4	6.1	0.1	1.8	3.5	Worse Than Expected
Anaheim Memorial Medical Center	559	19	18.0	1.1	3.4	1.8	3.2	4.6	
Brotman Medical Center	71	3	1.9	1.6	4.2	0.0	2.7	6.4	
CA Pacific Medical Center - Pacific Campus	593	26	14.8	1.8	4.4	1.3	2.5	3.7	Worse Than Expected
Cedars-Sinai Medical Center	985	25	24.1	1.0	2.5	1.5	2.4	3.4	
Centinela Hospital and Medical Center	183	7	6.2	1.1	3.8	0.9	3.4	5.9	
Community Memorial Hosp. of San Buenaventura	551	11	11.6	0.9	2.0	1.0	2.1	3.2	
Dameron Hospital	266	8	8.5	0.9	3.0	1.2	3.2	5.2	
Daniel Freeman Memorial Hospital	249	12	8.6	1.4	4.8	1.3	3.5	5.6	
Desert Regional Medical Center	230	10	5.3	1.9	4.3	0.4	2.3	4.2	Worse Than Expected
Doctor's Medical Center - San Pablo	167	9	5.4	1.7	5.4	0.7	3.2	5.8	
Dominican Hospital	379	8	9.8	0.8	2.1	1.1	2.6	4.0	
El Camino Hospital	285	8	10.5	0.8	2.8	1.7	3.7	5.7	
Encino Tarzana Regional Medical Center	463	13	18.0	0.7	2.8	2.2	3.9	5.5	
Enloe Medical Center	685	30	23.2	1.3	4.4	2.2	3.4	4.6	
Fountain Valley Regional Hospital	170	7	5.7	1.2	4.1	0.9	3.4	5.8	
Glendale Adventist Med Center - Wilson Terrace	636	26	15.6	1.7	4.1	1.3	2.5	3.6	Worse Than Expected
Glendale Memorial Hospital and Health Center	585	30	22.0	1.4	5.1	2.4	3.8	5.2	
Granada Hills Community Hospital	118	3	2.1	1.4	2.5	0.0	1.8	4.2	
Hoag Memorial Hospital Presbyterian	807	14	23.1	0.6	1.7	1.8	2.9	3.9	Better Than Expected
Huntington Memorial Hospital	641	12	20.3	0.6	1.9	1.9	3.2	4.5	

Table 5: Risk-Adjusted Results for CCMRP Hospitals, 2000-2002, Sorted Alphabetically (Continued)

Hospital Name	CABG Cases Submitted	Number of Observed Deaths	Number of Expected Deaths	O/E Ratio	Observed Death Rate	Lower 95% CL for Expected Death %	Expected Death Rate	Upper 95% CL for Expected Death %	Overall Performance Rating (blank=As Expected)
John Muir Medical Center	408	15	15.1	1.0	3.7	2.0	3.7	5.4	
Kaiser Foundation Hospital - Los Angeles	3,829	79	84.1	0.9	2.1	1.7	2.2	2.6	
Kaiser Foundation Hospital - San Francisco	3,291	49	60.6	0.8	1.5	1.4	1.8	2.3	
Kaweah Delta Hospital	1,078	33	41.5	0.8	3.1	2.8	3.8	4.9	
Lakewood Regional Medical Center	134	6	3.2	1.9	4.5	0.0	2.4	4.9	
Loma Linda University Medical Center	1,006	18	39.6	0.5	1.8	2.8	3.9	5.0	Better Than Expected
Long Beach Memorial Medical Center	1,159	45	34.8	1.3	3.9	2.1	3.0	3.9	
Marin General Hospital	187	6	4.0	1.5	3.2	0.1	2.1	4.1	
Memorial Medical Center of Modesto	1,063	30	25.5	1.2	2.8	1.5	2.4	3.3	
Mercy General Hospital	3,155	27	51.6	0.5	0.9	1.2	1.6	2.1	Better Than Expected
Mercy Medical Center – Redding	253	4	8.6	0.5	1.6	1.4	3.4	5.4	
Mercy San Juan Hospital	448	8	7.0	1.1	1.8	0.4	1.6	2.7	
Methodist Hospital of Southern California	591	9	14.9	0.6	1.5	1.3	2.5	3.7	
Mills-Peninsula Hospital	229	2	6.8	0.3	0.9	1.0	3.0	4.9	Better Than Expected
Mission Hospital and Regional Medical Center	582	14	13.4	1.0	2.4	1.1	2.3	3.5	
Palomar Medical Center	418	13	9.6	1.4	3.1	0.9	2.3	3.7	
Presbyterian Intercommunity Hospital	127	5	3.2	1.5	3.9	0.0	2.6	5.2	
Providence Holy Cross Medical Center	301	18	10.2	1.8	6.0	1.5	3.4	5.3	Worse Than Expected
Providence St. Joseph Medical Center	378	13	8.5	1.5	3.4	0.8	2.2	3.7	
Redding Medical Center	2,098	33	41.8	0.8	1.6	1.4	2.0	2.6	
Saddleback Memorial Medical Center	394	19	13.4	1.4	4.8	1.7	3.4	5.1	
Salinas Valley Memorial Hospital	902	21	27.0	0.8	2.3	1.9	3.0	4.0	
San Jose Medical Center	165	20	8.8	2.3	12.1	2.3	5.3	8.4	Worse Than Expected

Table 5: Risk-Adjusted Results for CCMRP Hospitals, 2000-2002, Sorted Alphabetically (Continued)

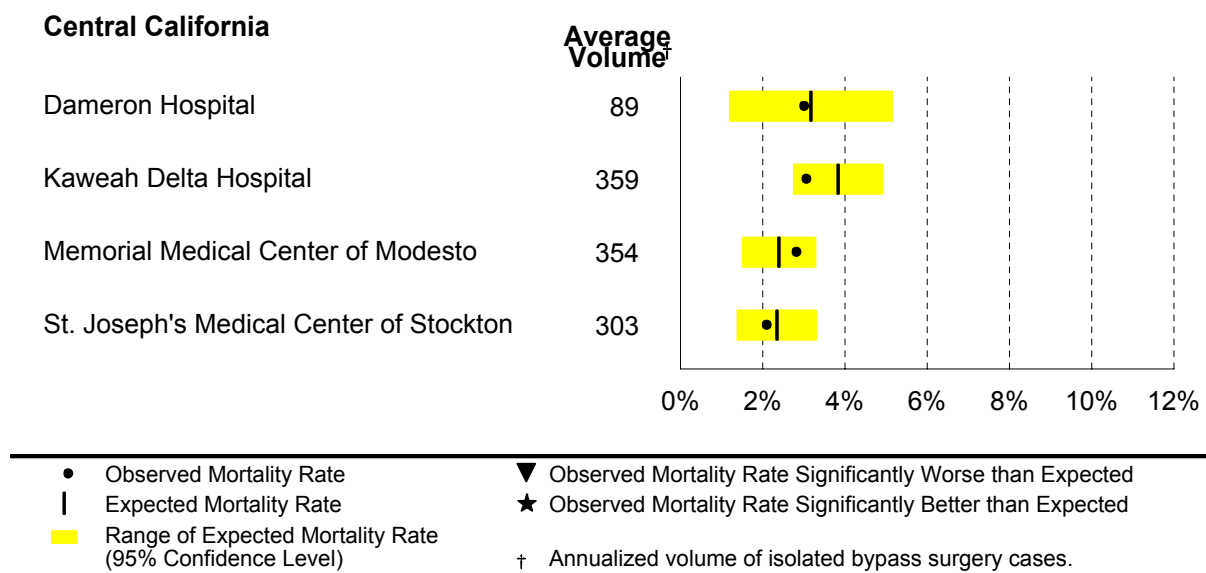
Hospital Name	CABG Cases Submitted	Number of Observed Deaths	Number of Expected Deaths	O/E Ratio	Observed Death Rate	Lower 95% CL for Expected Death %	Expected Death Rate	Upper 95% CL for Expected Death %	Overall Performance Rating (blank=As Expected)
Santa Barbara Cottage Hospital	606	20	21.6	0.9	3.3	2.2	3.6	4.9	
Santa Rosa Memorial Hospital	492	17	20.2	0.8	3.5	2.5	4.1	5.7	
Scripps Green Hospital	577	12	9.4	1.3	2.1	0.6	1.6	2.7	
Scripps Memorial Hospital - La Jolla	1,163	32	32.1	1.0	2.8	1.9	2.8	3.7	
Scripps Mercy	494	22	12.6	1.7	4.5	1.2	2.6	3.9	Worse Than Expected
Sequoia Hospital	566	8	18.5	0.4	1.4	1.9	3.3	4.6	Better Than Expected
Seton Medical Center - Heart Institute	1,010	21	27.0	0.8	2.1	1.7	2.7	3.6	
Sharp Chula Vista Medical Center	984	45	35.1	1.3	4.6	2.5	3.6	4.7	
Sharp Grossmont Hospital	593	20	18.4	1.1	3.4	1.8	3.1	4.4	
Sharp Memorial Hospital	733	13	17.2	0.8	1.8	1.3	2.3	3.4	
St. Bernardine Medical Center	1,589	49	53.1	0.9	3.1	2.5	3.3	4.2	
St. Francis Medical Center	326	18	12.7	1.4	5.5	1.9	3.9	5.9	
St. Helena Hospital	677	23	17.4	1.3	3.4	1.4	2.6	3.7	
St. John's Hospital and Health Center	381	11	8.9	1.2	2.9	0.9	2.3	3.8	
St. Joseph Hospital - Orange	779	21	22.4	0.9	2.7	1.8	2.9	4.0	
St. Joseph's Medical Center of Stockton	908	19	21.4	0.9	2.1	1.4	2.4	3.3	
St. Jude Medical Center	716	18	16.9	1.1	2.5	1.3	2.4	3.4	
St. Mary's Hospital and Medical Center	480	9	13.7	0.7	1.9	1.4	2.9	4.3	
St. Vincent Medical Center	684*	21	26.0	0.8	3.1	2.4	3.8	5.2	
Summit Medical Center	1,896	31	45.6	0.7	1.6	1.8	2.4	3.0	Better Than Expected
Sutter Memorial Hospital	1,876	27	42.9	0.6	1.4	1.6	2.3	2.9	Better Than Expected
The Hospital of the Good Samaritan	1,225	53	45.8	1.2	4.3	2.7	3.7	4.7	
Torrance Memorial Medical Center	607	12	21.3	0.6	2.0	2.1	3.5	4.9	Better Than Expected
Tri-City Medical Center	339	10	8.6	1.2	2.9	0.9	2.5	4.1	

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Hospital Name	CABG Cases Submitted	Number of Observed Deaths	Number of Expected Deaths	O/E Ratio	Observed Death Rate	Lower 95% CL for Expected Death %	Expected Death Rate	Upper 95% CL for Expected Death %	Overall Performance Rating (blank=As Expected)
UC Irvine Medical Center	68	3	2.9	1.0	4.4	0.0	4.3	8.7	
UCD Medical Center	553	13	14.7	0.9	2.4	1.4	2.7	3.9	
UCLA Medical Center	379	8	11.2	0.7	2.1	1.3	2.9	4.6	
UCSF Medical Center	271	9	6.0	1.5	3.3	0.5	2.2	3.9	
Valley Presbyterian Hospital	119	9	4.4	2.0	7.6	0.5	3.7	6.9	Worse Than Expected
Washington Hospital – Fremont	454	14	21.0	0.7	3.1	2.9	4.6	6.3	
Western Medical Center – Anaheim	250	6	5.7	1.1	2.4	0.5	2.3	4.1	
Western Medical Center - Santa Ana	135	3	3.7	0.8	2.2	0.1	2.7	5.4	

* Four non-isolated CABG deaths were removed after the hospital reviewed their risk adjusted results, but the hospital performance rating was unchanged.

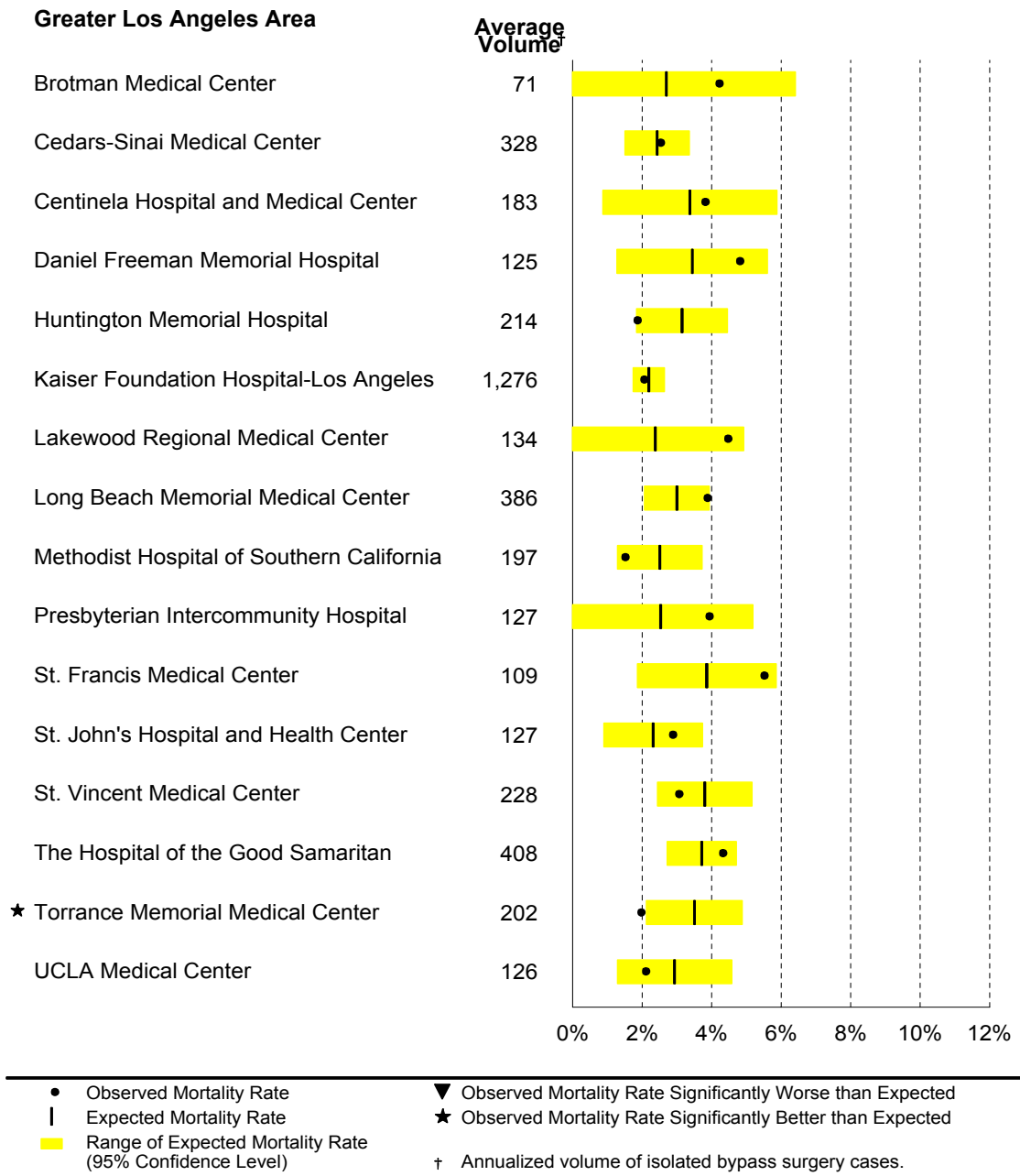
Figure 2: Comparison of Observed to Expected Mortality Rate, 2000-2002
(in Alphabetical Order by Geographical Region)



NOTE: The following hospitals in this region declined to participate:

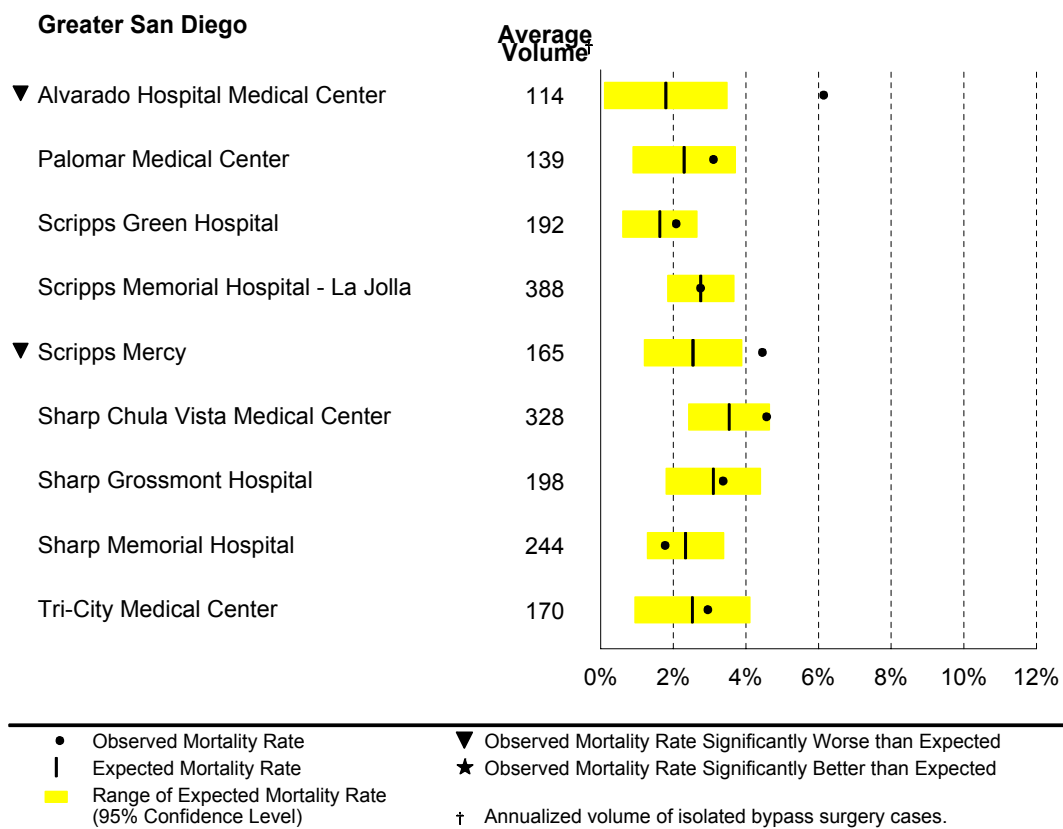
Bakersfield Heart Hospital, Bakersfield Memorial Hospital,
Doctor's Medical Center - Modesto, Fresno Community Hospital and Medical Center,
Marian Medical Center, San Joaquin Community Hospital, St. Agnes Medical Center.

Figure 2: Comparison of Observed to Expected Mortality Rate, 2000-2002
(cont.) (in Alphabetical Order by Geographical Region)



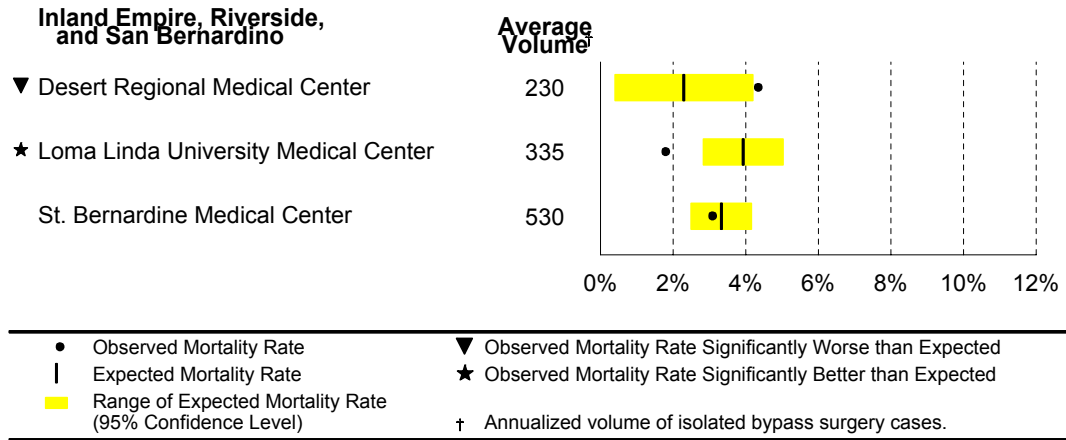
NOTE: The following hospitals in this region declined to participate:
Beverly Hospital, Downey Community Hospital, Garfield Med. Center, Intercommunity/Citrus Valley Med. Center, LA County Harbor-UCLA Med. Center, LA County/USC Med. Center, Little Company of Mary Hospital, Santa Monica - UCLA Med. Center, St. Mary Med. Center, USC University Hospital, White Memorial Med. Center.

Figure 2: Comparison of Observed to Expected Mortality Rate, 2000-2002
(cont.) (in Alphabetical Order by Geographical Region)



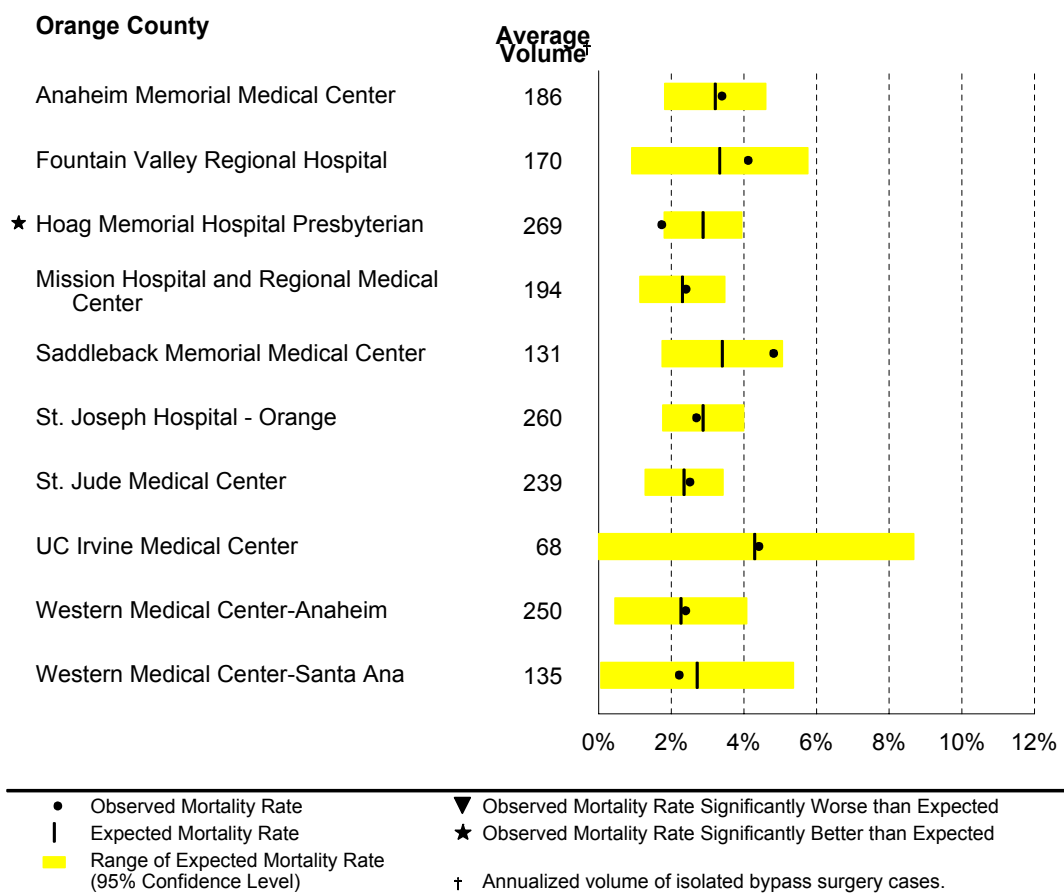
NOTE: The following hospitals in this region declined to participate:
UCSD Medical Center - Hillcrest, UCSD Medical Center - Thornton.

Figure 2: Comparison of Observed to Expected Mortality Rate, 2000-2002
(cont.) (in Alphabetical Order by Geographical Region)



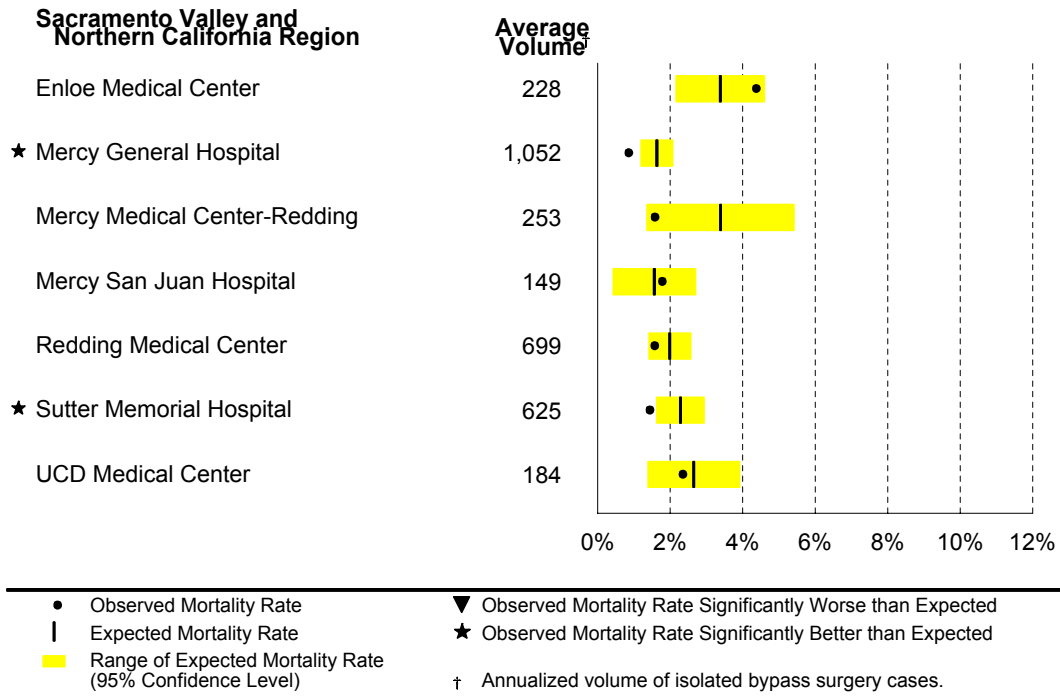
NOTE: The following hospitals in this region declined to participate:
 Eisenhower Memorial Hospital, Pomona Valley Hospital and Medical Center,
 Riverside Community Hospital Medical Center, San Antonio Community Hospital
 St. Mary's Regional Medical Center.

Figure 2: Comparison of Observed to Expected Mortality Rate, 2000-2002
(cont.) (in Alphabetical Order by Geographical Region)



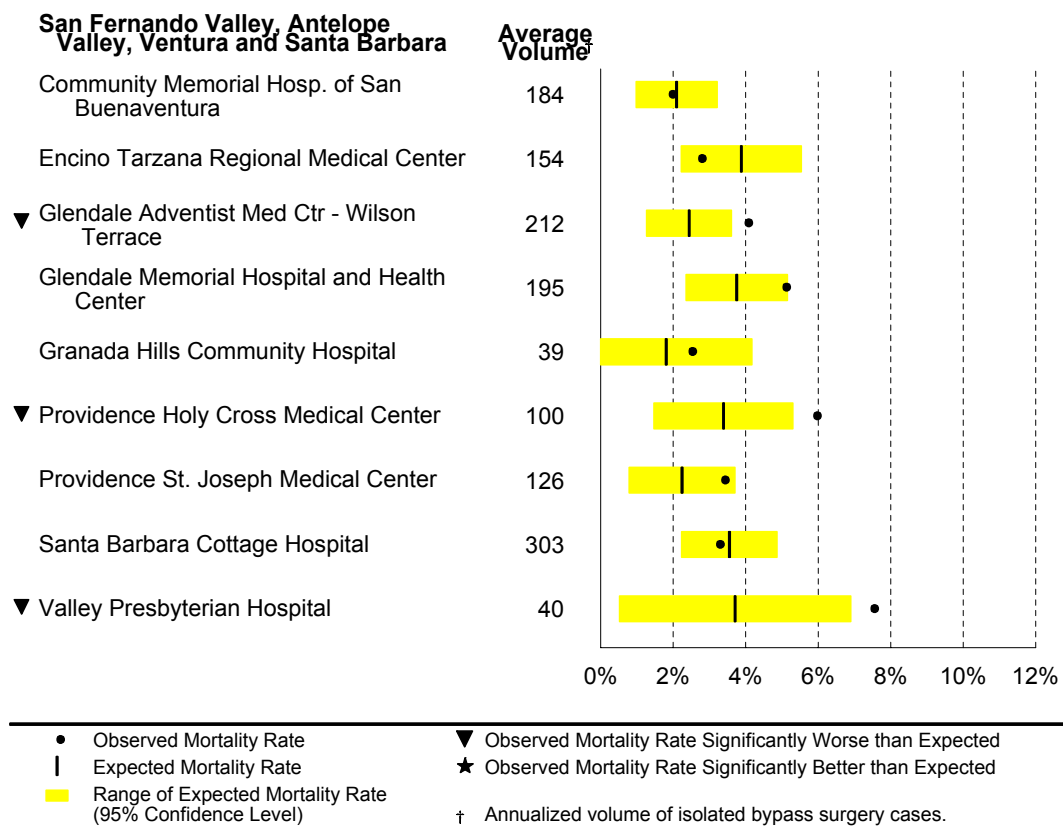
NOTE: The following hospitals in this region declined to participate:
West Anaheim Medical Center

Figure 2: Comparison of Observed to Expected Mortality Rate, 2000-2002
(cont.) (in Alphabetical Order by Geographical Region)



NOTE: The following hospitals in this region declined to participate:
St. Joseph Hospital - Eureka, Rideout Memorial Hospital.

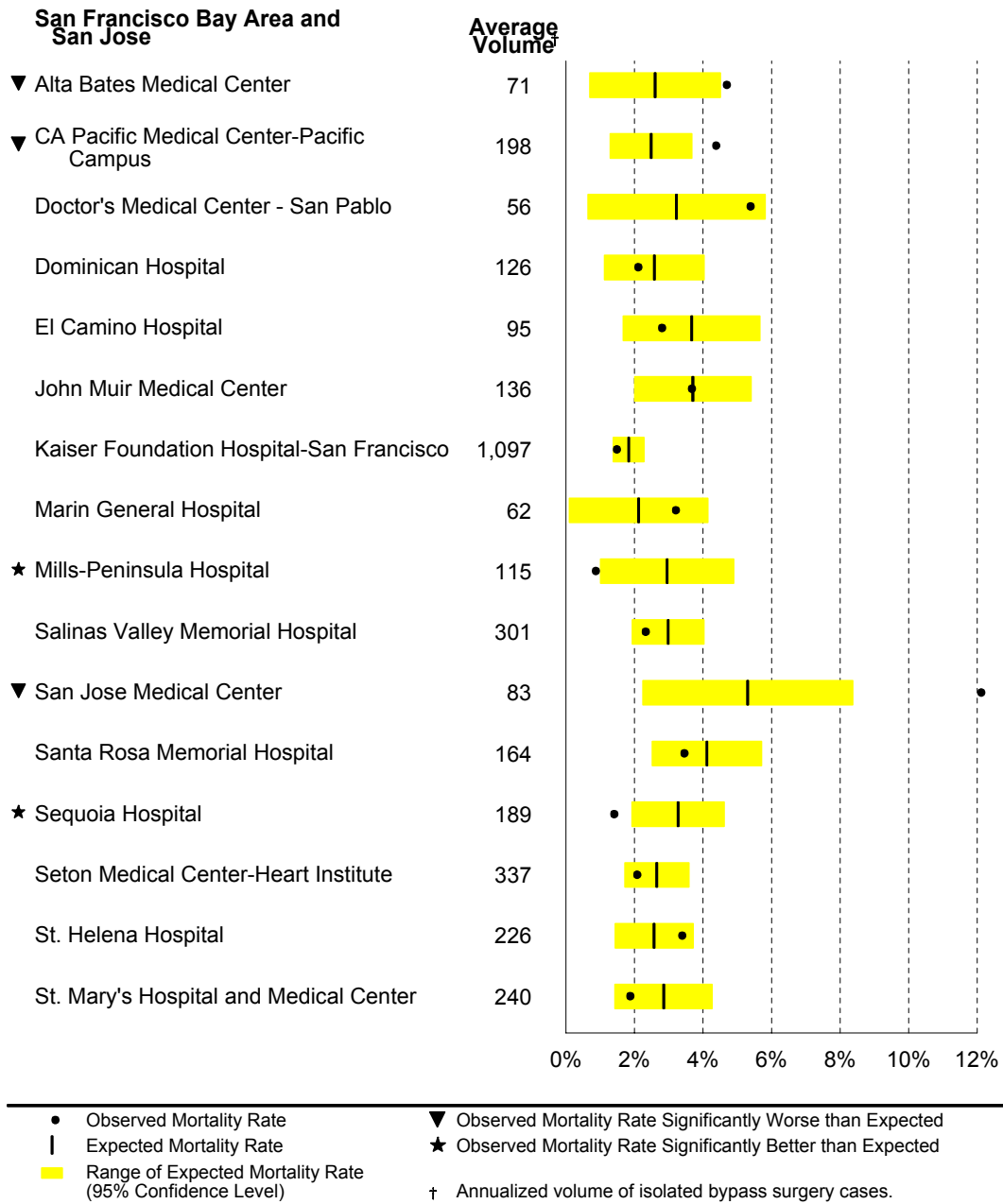
Figure 2: Comparison of Observed to Expected Mortality Rate, 2000-2002
 (cont.) (in Alphabetical Order by Geographical Region)



NOTE: The following hospitals in this region declined to participate:

Antelope Valley Hospital and Medical Center, French Hospital - San Luis Obispo, Granada Hills Community Hospital, Lancaster Community Hospital, Los Robles Regional Medical Center, Northridge Hospital Medical Center, Sierra Vista Regional Medical Center, St. John's Regional Medical Center, West Hills Regional Medical Center.

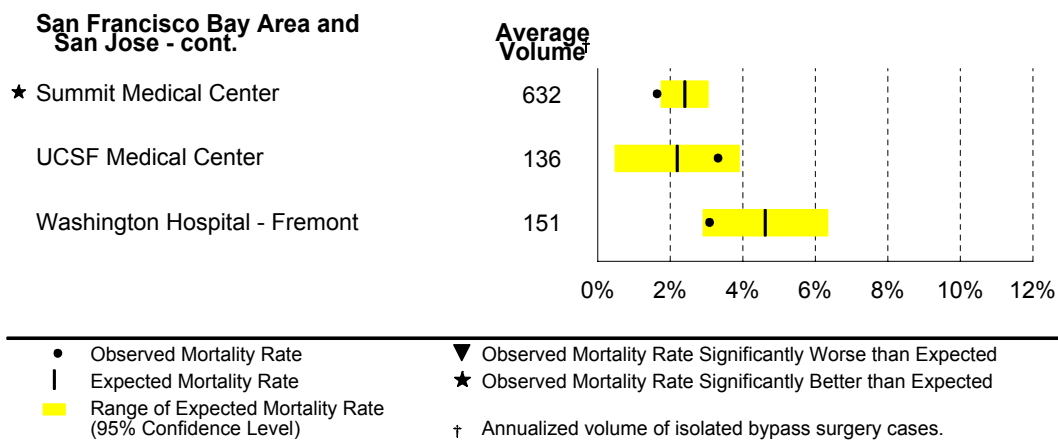
Figure 2: Comparison of Observed to Expected Mortality Rate, 2000-2002
(cont.) (in Alphabetical Order by Geographical Region)



NOTE: The following hospitals in this region declined to participate:

Good Samaritan Hospital, Mt. Diablo Medical Center, O'Connor Hospital
 Queen of the Valley Hospital, San Ramon Regional Medical Center,
 Santa Clara Valley Medical Center, Stanford University Hospital,
 Sutter Medical Center of Santa Rosa.

Figure 2: Comparison of Observed to Expected Mortality Rate, 2000-2002
(cont.) (in Alphabetical Order by Geographical Region)



NOTE: The following hospitals in this region declined to participate:

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 Queen of the Valley Hospital, San Ramon Regional Medical Center,
 Santa Clara Valley Medical Center, Stanford University Hospital,
 Sutter Medical Center of Santa Rosa.